

Atlas Minerals
Division of Atlas Corporation

2506 Prudential Plaza

1050 17th Street

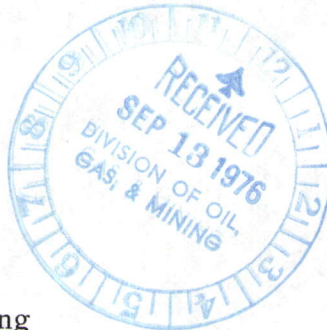
Denver, Colorado 80202

Phone (303) 534-8187

September 10, 1976

ACT-019-003

A.E. Dearth, President



Mr. Cleon B. Feight
Director
State of Utah
Division of Oil, Gas, and Mining
1588 West North Temple
Salt Lake City, Utah 84116

Dear Mr. Feight:

Attached hereto please find correspondence between Atlas and the Environmental Protection Agency relating to our request to extend our right to discharge into the Colorado River until July 1, 1977.

Again I apologize for not having provided you with this information at an earlier date. Henceforth, we will keep you currently informed as new information is developed.

Best regards.

A.E. Dearth

Very truly yours,

AED:dh

cc: Marshall Fischer
Brian Dolan
W. P. Badger

CIRCULATE TO:

DIRECTOR	_____	<input checked="" type="checkbox"/>
PETROLEUM ENGINEER	_____	<input checked="" type="checkbox"/>
MINE COORDINATOR	_____	<input checked="" type="checkbox"/>
ADMINISTRATIVE ASSISTANT	_____	<input checked="" type="checkbox"/>
ALL	_____	<input checked="" type="checkbox"/>

RETURN TO File in Atlas Mill - L.Am
FOR FILING

Atlas Minerals
Division of Atlas Corporation
P.O. Box 1207 Moab, Utah 84532

September 3, 1976

Mr. Marshall Fischer
Environmental Protection Agency
Permits Administration and Compliance Branch
1860 Lincoln Street, Suite 900
Denver, Colorado 80203

Re: Letter of 8-25-76 from Mr. Robert Frenette to A. E. Dearth

Dear Mr. Fischer:

The letter referenced above sets forth a list of seven basic groups of information which needed to be submitted by Atlas Corporation, pursuant to our request for modification of NPDES Permit #UT-0000060. In the following paragraphs we have attempted to supply this information and explain our position on each subject. The explanations will be supported where needed by documents and letters from other sources.

Item 1 - Requests a complete waste water assay representing the quality of the discharge with both acid and alkaline processes on line. Of particular interest are the heavy metals, total dissolved solids and sulfates. Our quarterly self-monitoring reports to EPA contain data on total dissolved solids and sulfates. As we do not routinely check the heavy metals, we are including here, data from the Utah State Division of Health, who run a rather complete set of analyses on our composite effluent sample each month. Data is available for the period of 12/75 - 6/76, during which both acid and alkaline circuits were operating. Where we have compared analyses with the Division of Health, the correlation has been very good and we feel that their data is representative.

All Values in Micrograms/Liter

<u>Month</u>	<u>Cu</u>	<u>Fe</u>	<u>Pb</u>	<u>Mn</u>	<u>Hg</u>	<u>Ni</u>	<u>Ag</u>	<u>Zn</u>
12/75	30	0	40	250	0	70	30	40
1/76	0	0	1	20	0	100	0	50
2/76	8	0	9	2200	0	0	30	125
3/76	16	18	3	7100	7	190	20	195
4/76	55	45	180	13900	0	170	40	290
5/76	50	45	200	6000	0	100	20	200
6/76	30	30	100	7300	0	120	10	200

As you recall, we took a grab sample of the effluent on 8/26/76 while you were at the Atlas Mill. We have included here our analyses of that sample.

<u>Cu</u>	<u>Fe</u>	<u>Pb</u>	<u>Mn</u>	<u>Hg</u>	<u>Ni</u>	<u>Ag</u>	<u>Zn</u>	<u>TSS</u>	<u>TDS</u>
23	4700	32	--	0	100	--	109	130	11247

Metal values are in micrograms per liter. Total dissolved solids and total suspended solids are in parts per million. We did not attempt to analyze for silver and cannot detect manganese below 5ppm. As you can see, our analyses agree very well with the data from the Division of Health with the exception of the iron content.

Item 2 - Requests the projected flow rates of discharged waste water and a schedule for increments of progress in elimination of flow during the course of implementing recycling circuits. As of 9/1/76 we are recycling 200 GPM of water from the tailings pond. By 10/15/76 we will increase the recycle to 500 GPM and will continue at that rate until 7/1/77 when the discharge will be eliminated. The recycle rate will result in the same rate of flow decrease in the mill effluent. The actual volume of flow will vary with weather conditions as evaporation and rainfall are very critical. Naturally, the flow during winter months will be higher than during summer months for the same production and recycle rates. Thus we cannot predict what the actual effluent flow rates will be. However, we anticipate that a recycle rate of 500 GPM will cut the average effluent flow from a normal of about 2.0 MGD without recycle to about 1.3 MGD with recycle during the winter months. During the summer months, we expect the effluent flow to decrease from a normal of about 1.4 MGD without recycle to about 0.7 MGD with recycle. As of this writing, the normal August effluent flow of 1150 GPM has been reduced to 940 GPM since instituting recycle.

Item 3 - Requests documentation of all factors responsible for delays in the full utilization of the acid leach circuit and the new alkaline circuit. We are sure that you are generally familiar with the difficulty in obtaining manufactured goods over the past several years, specifically those goods requiring petroleum based chemicals and specialty castings. The Atlas Mill requires the use of chemical resistant materials in nearly all phases of the circuit. The use of stainless steel pumps and plastic piping of many different types is necessary. We shall not here attempt to document the many difficulties that we have faced in obtaining such basic essentials as stainless fasteners, pump parts, valves, pipe fittings, plastic pipe and glue to make pipe joints. We would like to bring to your attention several examples of problems that we have encountered with major pieces of equipment. A prime example of this is the dealings that we have had with Envirotech Corporation in the supply of our EIMCO Drum Filters. These filters separate the solubilized uranium and vanadium values from the host rock and are one of the key features of the entire process. To begin with, Envirotech is one of only two or three manufacturers that can supply filters of this type and size. After some investigating, we determined that only they could supply the necessary hardware within the time frame involved. The first four filters were ordered in October of 1973. Delivery was promised in June of 1974. After several successive failures to deliver on promised dates, the first filter arrived in Moab in January of 1975. This placed us a full six months behind our original construction schedule. The second filter, about 15 minutes after leaving the factory in Salt Lake City, was run under an overpass with inadequate clearance and sustained extensive damage to the drum. The resulting rebuilding cost us about one more month delay. All four filters finally arrived on our plant site some time in the first quarter of 1975.

The acid circuit was started up in October of 1975. We discovered after about six weeks of operation that the metal grids on the EIMCO drum filter faces were rapidly dissolving. After much investigation, we found that Envirotech had deliberately substituted monel alloy for the alloy 20 which we had specified for construction of the grids. All four filters had to be torn down and new grids placed on them at great expense and loss of production time. After several more months of operation, other parts of the filters began to deteriorate rapidly due to faulty design. The problems are too numerous to cover here, but I will estimate that the availability of the filters has been less than 50%. Currently, we have on order two more filters needed to keep production capacity up, which will incorporate design features found necessary during our brief experience with the original filters. You will find attached to this letter a group of letters, memos and invoices thoroughly documenting the case I have just discussed. You will also receive letters from Envirotech Corporation and from Colorado Macco, our construction contractor, verifying some of the difficulties.

Another example of extreme problems with delivery of a major piece of equipment, was the case of the vanadium product dryer. This dryer is a multiple hearth roaster manufactured by Mine and Smelter Industries of Denver, and is used to remove water from our vanadium product. During the course of manufacture of this dryer, Mine and Smelter was facing bankruptcy action for failure to pay their suppliers. As a result, these suppliers refused to send needed parts for our dryer. To get the parts Atlas Minerals had to finally agree to pay for them directly to the suppliers after we had already paid Mine and Smelter the bulk of the purchase price through an advance payment schedule. The resulting legal snarls caused the final installation of the dryer to be more than one full year behind schedule.

Item 4 - Requests the production rates for each circuit on a month to month basis for the last two years. Production rates in short tons of ore are:

<u>Month</u>	<u>Acid Circuit</u>	<u>Alkaline Circuit</u>
8/76	11,591	27,761
7/76	8,502	21,730
6/76	7,105	16,727
5/76	8,008	26,002
4/76	8,885	24,447
3/76	10,119	24,363
2/76	9,530	20,227
1/76	3,801	28,133
12/75	6,199	28,928
11/75	1,513	30,637
10/75	----	35,574
9/75	----	28,203
8/75	----	30,196
7/75	----	34,655
6/75	----	38,164
5/75	----	37,302
4/75	----	30,772
3/75	----	30,244
2/75	----	28,881
1/75	----	30,239
12/74	----	28,616
11/74	----	22,895
10/74	----	29,932
9/74	----	21,976

Item 5 - Requests any proposed modifications of the tailing pond system to insure no excesses of the total suspended solids and total metals during the proposed interm discharge period. Much of the trouble related to high total suspended solids has been generated by algae growth in our ponds during periods of favorable temperature and water conditions. The algae traps very fine particles from the tailing that normally would settle out in the main tailing pond. Chunks of algae and trapped mud break loose from the banks of the pond at times and enter the effluent stream as floating particles which cannot be settled. We propose to build a skimming device situated at the discharge of the lower settling basin. This device will take the form of a verticle baffle which will force all water discharged to flow underneath, retaining any floating material.

Some problems with high total dissolved solids are caused by poor settling characteristics of certain ores which we process. During processing of these ores, a general cloudiness of the main pond may occur but this is most pronounced near the points of discharge from the tailing conduit. Our present decant tower is located near discharge points of the tailing conduit and is fixed in position. We have in the process of installation a floating decant system which will allow us to select the point of decantation from the pond. The decant system then can be kept away from cloudy areas near the tailing conduit.

We propose to limit the heavy metal discharge to the Colorado River by limiting the total volume of flow as described in Item 2 of this letter. Recycling of tailing water will eventually result in a gradual build-up of all dissolved solids in the pond and at some point a new equilibrium would be established. At this new equilibrium point, the total quantity of dissolved metals flowing to the river would be the same as before recycling. However, we feel that a new equilibrium will not be established during the interim period and a marked reduction of total metals discharged to the river will be made.

Item 6 - Requests additional information relating to Atlas Minerals increasing production capacities over that of the original mill design. The changes that have taken place in the Atlas Mill over the past few years do not represent an increase in capacity over the original design of the mill, but instead represent a change in operating methods to comply with changing patterns of economic conditions and environmental pressures. Briefly, the first few years of this decade were very poor for the uranium industry. Prices were at an all time low, ore reserves (i.e. available at current prices) were dwindling, AEC contracts had run out and major utilities were not yet much interested in nuclear power. At this point, Atlas Minerals found that the ore reserves available which could be processed through the old alkaline circuit were nearly depleted. New discoveries of ore all contained vanadium bearing minerals which require an acid leaching process to recover. We decided to build a 600 TPD acid leaching circuit to process the new ores. This was a far cry from the original up to 3,000 TPD alkaline operation of the late 50's and early 60's. The particular type of acid circuit was dictated, in part, by the requirement to limit and eventually eliminate discharges to the Colorado River.

To obtain funding for the new plant, Atlas was required by the lending institution to obtain long term sales contracts from major utilities to insure a market for our products. Thus, a major portion of the capacity of the new acid circuit was committed through 1982 at prices averaging about 8-10 dollars per pound of yellow cake produced. When these sales contracts were signed (1972) the prices appeared to be adequate to insure operation on the black side of the ledger.

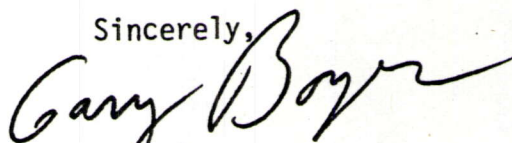
Under 1976 economic conditions, it is impossible for Atlas to produce uranium for 8-10 dollars per pound. We are, in fact, paying independent mining firms 15+ dollars per pound for uranium in raw ore, before milling and marketing costs are added in. It is necessary for us to do this to remain competitive with other ore buyers.

As acquisition and production costs spiraled upward during 1974-76, we determined that the only way we could stay in business was to be able to produce substantially more pounds of uranium than our long term contracts called for. These extra pounds we could sell on the open market and take advantage of the now strong demand and high prices. Now we are faced with what appears to be a good supply of ore amenable to the alkaline circuit due to the increased demand. This ore will allow us to produce those extra pounds needed to remain in a profit making situation. However, we have already committed ourselves to eliminating the effluent to the Colorado River, so we must modify the alkaline circuit into a closed system.

To finish modification of the alkaline circuit this year would require the shut down of the circuit, severely curtailing our production capacity. As we have large commitments at fixed contract prices, we would face severe economic problems if forced to do so. We feel that by July of next year, we can have the acid circuit at a production rate which would enable us to shut down the present alkaline circuit and complete modifications, thereby eliminating the effluent discharge. Had we not so many problems with the acid circuit, it would now be at full production capacity and we could have met the 10/1/76 deadline on the effluent.

Item 7 - Requests a schedule of specific dates upon which units will be placed into operation and eventually result in no discharge from the system. Delivery on the two additional Eimco filters is now scheduled for late September. Providing no substantial delays beyond that are encountered, we will have them installed and in operation by January 1, 1977. By operating the acid and alkaline circuits both in full production from January 1, 1977, to July 1, 1977, we will be able to shut down the alkaline circuit on July 1st to finish modifications. At that point, the effluent will be eliminated. We will be able to operate the alkaline circuit at 1/3 capacity for three months and at 2/3 capacity for three months and should be back to full capacity by January 1, 1978.

Sincerely,



Gary Boyer
Plant Superintendent

GB/sh

cc: A. E. Dearth
W. P. Badger
Calvin Sudweeks
W. T. Crow
Ross Scarano

Atlas Minerals
Division of Atlas Corporation
2506 Prudential Plaza
1050 17th Street
Denver, Colorado 80202
Phone (303) 534-8187

August 16, 1976

Mr. Irwin L. Dickstein
Director, Enforcement Division
Environmental Protection Agency
Region VIII
1860 Lincoln Street
Denver, Colorado 80203

Attention: Mr. Marshall Fischer

Subject: Application for Modification of
NPDES Permit UT-0000060

Gentlemen:

Confirming the verbal request made at our meeting on August 12, 1976, we hereby formally request modification of NPDES Permit UT-0000060 to authorize continued discharge from Outfall 002 until July 1, 1977.

As we advised you, we have experienced serious continuing difficulties with the EIMCO Drum filters in our new acid recovery circuit at the Moab, Utah plant. The initial cause of these difficulties was outlined in our letter to you of February 10, 1976. Since that date continuing on-site repair and maintenance of the filters has been in progress, severely reducing operating capacity of the circuit. In addition, two additional filters to be supplied by EIMCO as of July 1, 1976 have not yet been delivered and, by current best estimates, cannot be in operation until at least October 1, 1976.

The impact of these difficulties has been two-fold:

(i) Maintenance and construction personnel have been diverted from efforts to complete construction of the acid recovery circuit to repair and maintenance of the filters, resulting in delay of the circuit's estimated completion date.

Environmental Protection Agency
August 16, 1976
Page Two

(ii) Production from the plant has been severely curtailed, resulting in our falling behind on product delivery commitments to purchasers.

For these reasons it is imperative that we be able to continue operation of our alkaline circuit and to continue discharges from Outfall 002 until July 1, 1977.

As you requested, we will have our Moab personnel contact you in the near future to supply:

- (i) Current analyses of the composition of discharge from Outfall 002.
- (ii) Current estimated timetables for completion of construction of the acid circuit, to include identification of components on hand and those remaining to be delivered.

After you have had an opportunity to review this request and the additional information to be supplied, we will be available to meet with you at your convenience to expedite processing of this matter. We sincerely appreciate your expressions of willingness to cooperate with us.

Very truly yours,

Atlas Mineral Division
of Atlas Corporation

By 
K.I. Olsen - Vice President



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII
1860 LINCOLN STREET
DENVER, COLORADO 80203

8E-PC

AUG 25 1976

Certified Mail - Return
Receipt Requested

Mr. A. E. Dearth, President
Atlas Minerals
Division of Atlas Corporation
2506 Prudential Plaza
1050 17th Street
Denver, Colorado 80202

Re: NPDES Permit Number
UT-0000060

Dear Mr. Dearth:

Pursuant to your request of August 16, 1976, for modification of the above-referenced NPDES permit, this Agency requires the submittal of the following information for our evaluation:

- (1) A complete wastewater assay representing the quality of the discharge with both acid and alkaline processes on line. The assay must thoroughly address heavy metal fractions, total dissolved solids, and sulfates.
- (2) The projected flow rates of discharged wastewater and a schedule for increments of process in elimination of flow during the course of implementing recycling circuits.
- (3) Documentation of all factors responsible for delays in the full utilization of the acid leach circuit and the new alkaline circuit. Specifically, letters and notices of delay from equipment manufacturers, construction services, etc., should be presented.
- (4) The total tons per day of ore processed over the last two years for each month through each processing circuit.
- (5) Any proposed modifications of the tailings pond system to insure no excesses of the total suspended solids and total metals during the proposed interim discharge period.
- (6) Additional information relating to Altas Minerals increasing production capacities over that of the original mill design, i.e., a brief chronology of process modifications made from the original circuitry.

- (7) A schedule of specific dates upon which units will be placed into operation and eventual result in no discharge from the system.

If you should have any questions concerning this request, please contact Mr. Marshall Fischer of my staff telephone (303) 837-4901.

Sincerely yours,



Roger E. Frenette

Permits Administration and Compliance Branch
Enforcement Division

cc: Utah Bureau of Environmental Health

William Badger, General Superintendent
Altas Minerals

Attention: Gary Boyer

ColoMACCO, Inc.

(A wholly owned subsidiary of THE ORTLOFF CORPORATION)

2308 HIGHWAY 6 & 50 WEST • POST OFFICE BOX 2648
303-242-6994 • GRAND JUNCTION, COLORADO 81501

September 2, 1976

The Environmental Protection Agency
Region 8
Permits, Administration & Compliance Branch
1860 Lincoln Street, Suite 900
Denver, Colorado 80203

Subject: Extension of Effluent Permit for Atlas Minerals, Moab, Utah

Attention: Mr. Marshall Fischer

Gentlemen:

As General Contractors on the construction of the Solvent Extraction, Acid Filter section and conversion of the alkaline R I P Circuit to a caustic Precip Circuit of the Atlas Minerals Mill Expansion near Moab, Utah, we have experienced many delays in delivery of engineered equipment resulting in us being one (1) year behind schedule.

The critical items that were late delivery are as follows:

1. The four (4) acid filters were ordered 11-73. Delivery promised 7-74. Received 1-75. Delays in shipment were caused by plant strike and truck collision during delivery of #1 unit.
2. Due to wrong material specification being used in construction of acid filters, drum and harness had to be replaced on #2. Delay two (2) months.
3. Red Cake Dryer ordered 4-8-74. Delivery promised 4-8-75; actual delivery 7-75. Delay in shipment due to vendor experiencing financial difficulties that left him unable to meet his commitments and misfabrication of rabble arms.
4. Roots Conervil vacuum pumps three (3) months late.
5. Red Cake thickner two (2) months late.

In summary, the later delivery of the above major items have resulted in that portion of the project being one (1) year behind schedule. We now anticipate completion of the project to be on or before January 1, 1978.

Very truly yours,

C. D. MC Kenzie
C. D. MC KENZIE

CDM:pr

cc: William Badger, Atlas Minerals

